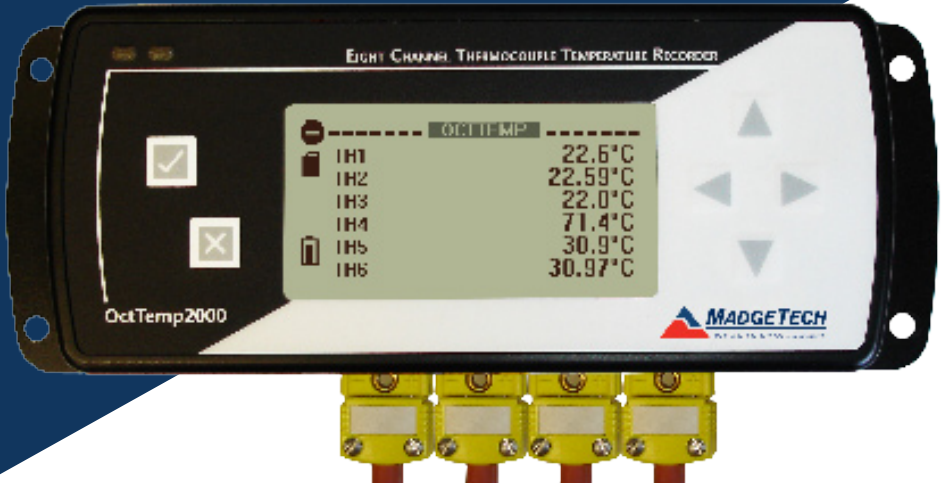
OctTemp2000



Data Logger Manual

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Overview

Other Documentation

Other documents which may be of interest to you are the Software Operating Manual and Data Logger Quick Start Guide. To obtain the most current versions of both of these documents please visit our website (www.madgetech.com).

Contacting Us

For additional sales, service, and support you may contact our office directly:

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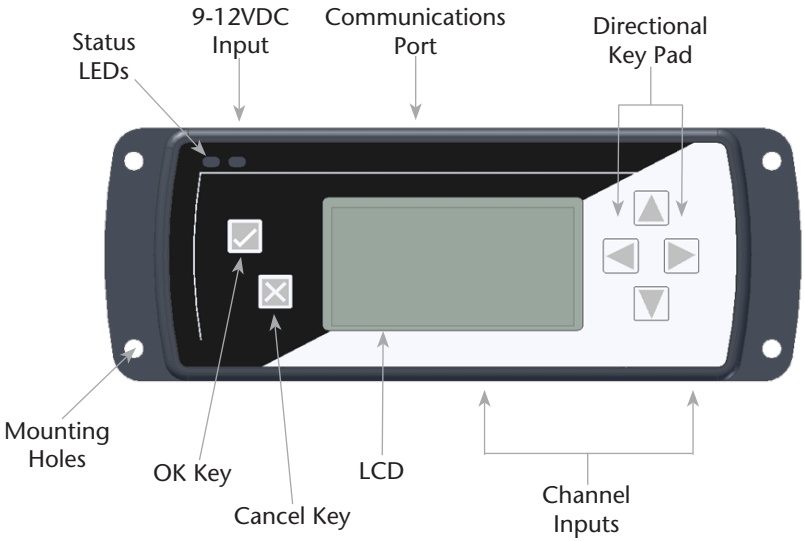
Introducing the OctTemp2000

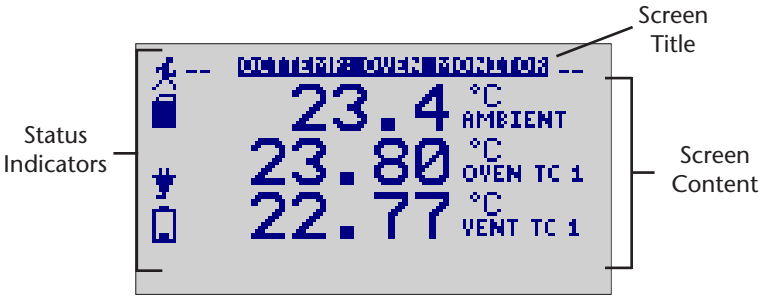
Device Overview



Keypad Functions

✓	OK Key
✗	Cancel Key
▲ ▼	Up/Down Directional Keys
◀ ▶	Left/Right Directional Keys

Display Overview



Status Indicators

	Battery Power (Full, Half-full, Empty)
	Memory Remaining (Empty, Half-full, Full)
	Device is running
	Device is stopped
	Delay Start
	Push-button (Manual) Start
	Device reset has occurred
	External power present

Specifications

Internal Temperature Channels

Range: -20 to +60°C
Resolution: 0.1°C
Accuracy: ±0.5°C (0 to +50°C)

Thermocouple Channels

Types: J, K, T, E, R, S, B, and N
Connection: Female sub-minature (SMP)
Cold Junction Compensation: Automatic, based on internal channel
Maximum Thermocouple Resistance: 1000Ω < 100Ω recommended

Thermocouples:

Type	Range	Resolution	Accuracy
J	-200 to +760°C	0.1°C	± 0.5°C
K	-200 to +1370°C	0.1°C	± 0.5°C
T	-200 to +400°C	0.1°C	± 0.5°C
E	-200 to +980°C	0.1°C	± 0.5°C
R	-50 to +1760°C	0.1°C	± 2.0°C
S	-50 to +1760°C	0.1°C	± 2.0°C
B	+50 to +1820°C	0.1°C	± 2.0°C
N	-200 to +1300°C	0.1°C	± 0.5°C

Dot-Matrix LCD

Dimensions: 2.5" x 1.375" (63mm x 35mm)
Text: Configurable channel text size
Indicators: Power, status, memory
Backlight: Configurable with auto shut-off and contrast adjustment

Start/ Stop Modes

Software programmable start time and date, up to six months in advance, or manual (push-button) start. Programmable stop time.

Memory

500,000 readings per channel with all channels enabled;
4,000,000 total readings; software configurable memory wrap

Reading Rate

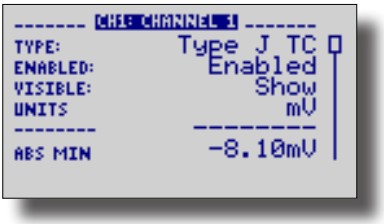
4 readings per second (4Hz) up to 1 reading every 24 hours

Calibration Digital calibration through software. Calibration date automatically recorded within device. NIST traceable certificate available.
Power Supply Primary Source: 9V lithium or alkaline battery, user replaceable Secondary Source: 7.5 - 24V DC external, 100mA max
Battery Life Eighteen month battery life with display off. Three months typical with continuous display use.
Data Format Time and date stamped, °C, °F, K, °R, µV, mV, V
Time Accuracy ±1 minute per month
Computer Interface PC serial or USB (interface cable required); 115,200 baud
Software XP SP#/Vista/Windows 7
Operating Environment -20 to +60°C, 0 to 95%RH non-condensing
Dimensions 7.24" x 2.7" x 1.14"
Weight 15oz.
Enclosure Black anodized aluminum

Device Functions

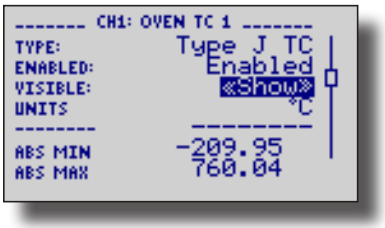
Channel Options

Each of the OctTemp2000's channels have several options that are configurable by the user through the device's display screen menus and the software.



Show or Hide Channels on the Home Screen

The user may choose to either show or hide channels on the home screen.



To change channel visibility from the **Home Screen**:

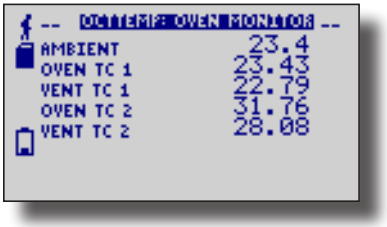
1. Press ☑ to view first **channel screen**
2. Use ◀ ▶ to view additional channels
3. On desired channel screen use ▲ ▼ to highlight **Visible**
4. Use ◀ ▶ to choose **Show** or **Hide**
5. Press ☒ to return to the **Home Screen**

—OR—

1. Use ▲ ▼ to highlight desired channel
2. Press ☑ to view **channel screen**
3. Use ▲ ▼ to highlight **Visible**
4. Use ◀ ▶ to choose **Show** or **Hide**
5. Press ☒ to return to the **Home Screen**

Change Channel Display Size

Channels may be viewed in a number of different sizes. The smallest size allows for an overview of several channels at once, while the largest gives at-a-glance access to one or two channels.



Small Font

Medium Font

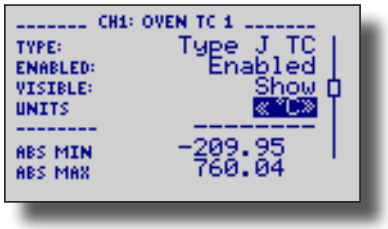
Large Font

To change channel display size from the **Home Screen**:

1. Press ☒ to enter the **Main Menu**
2. Use ▲ ▼ to highlight **Setup Menu**
3. Press ☑ to enter the **Setup Menu**
4. Use ▲ ▼ to highlight **Channel Size**
5. Use ◀ ▶ to choose the desired channel size
6. Press ☒ once to return to the **Main Menu**
7. Press ☒ again to return to the **Home Screen**

Change Channel Units

Channels can be customized to display readings in a variety of convenient units. Units available for selection will vary according to channel type.



Note: Changing display units will not affect logged data.

To change channel display from the **Home Screen**:

1. Press ☑ to view first **channel screen**
2. Use ◀ ▶ to view additional channels
3. On desired channel screen use ▲ ▼ to highlight **Units**
4. Use ◀ ▶ to choose the desired unit option
5. Press ☒ to return to the **Home Screen**

—OR—

1. Use ▲ ▼ to highlight desired channel
2. Press ☑ to view **channel screen**
3. Use ▲ ▼ to highlight **Units**
4. Use ◀ ▶ to choose the desired unit option
5. Press ☒ to return to the **Home Screen**

Note: Hit X to update all channels.

Statistics

Statistical information is generated based on the data measured by each channel.

> Note: Information is only generated while the data logger is running and the reset does not affect statistics on download.

View Channel Statistics

Minimum, maximum, and average values are calculated for each channel and displayed in the statistics screens.

To view channel statistics from the **Home Screen**:

1. Use ◀ ▶ to view desired statistic screen
2. In statistics screen use ▲ ▼ to view statistics for each channel
3. Use ◀ ▶ to scroll back to the **Home Screen**

Clear Channel Statistics

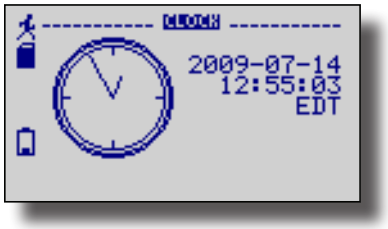
Statistics may be cleared and reset at any time.

To clear channel statistics from the **Home Screen**:

1. Press ☒ to enter the **Main Menu**
2. Use ▲ ▼ to highlight **Clear Statistics**
3. Press ☑ to select **Clear Statistics**
4. Press ☑ to confirm statistics clear, ☒ to cancel

Time and Date Information

Current time and date information is available on the LCD. System time is automatically synchronized with your computer's clock.



To view time and date information from the **Home Screen**:

1. Press ☒ to enter the **Main Menu**
2. Use ▲ ▼ to highlight **Clock**
3. Press ☑ to select **Clock** and view time and date information

Manual (Push-button) Start

Devices set to start in Manual (Push-button) mode can be started through the device's display screens at the user's convenience.

To manually start device from the **Home Screen**:

1. Press ☒ to enter the **Main Menu**
2. Use ▲ ▼ to highlight **Start Device**
3. Press ☑ to select **Start Device**
4. Press ☑ to confirm device start, press ☒ to cancel

Device Menus

Device Status Menu

Information such as current recording status, reading rate, stop date and time, and calibration information can be found in the Device Status Menu.

To access the **Device Status Menu** from the **Home Screen**:

1. Press ☒ to enter the **Main Menu**
2. Use ▲ ▼ to highlight **Status**
3. Press ☑ to enter the **Device Status Menu**

Status – Device's current recording status.
- Running - device is actively recording data
- Stopped - device is not actively recording data
- Delay - device is in Delay Start mode (start scheduled for future)
- Manual - device is in Manual (push-button) Start mode

Memory Left – Percentage of memory available to store readings

Readings – Number of readings currently stored in device's memory

Rate – Reading rate (configurable using data logger software)

Wrap – Memory wrap (configurable using data logger software)
- Enabled - when memory is full device will overwrite oldest data
- Disabled - when memory is full device will stop recording data

Start Date/Time – Date and time device began recording data

Stop Date/Time – Date and time device will stop recording data (due to full memory or other user configured parameter)

Reading Date/Time – Date and time of last recorded reading

Cal Date – Date of last device calibration

Cal Due – Date device is due for recalibration

Note: It is important to keep your device properly calibrated to ensure accurate readings. Contact MadgeTech for further information regarding calibration services.

Device Setup Menu

Functions in the Device Setup Menu allow you to change home screen, display, and battery options.

To access the **Device Setup Menu** from the **Home Screen**:

1. Press ☒ to enter the **Main Menu**
2. Use ▲ ▼ to highlight **Setup Menu**
3. Press ☑ to enter the **Setup Menu**

Channel Size – Options for channel font size displayed on Home Screen.

Use ◀ ▶ to select font size

Small - up to six channels displayed on Home Screen

Medium - up to three channels displayed on Home Screen

Large - up to two channels displayed on Home Screen

Update Screen – Frequency of Home Screen Update

Use ◀ ▶ to select

Auto - Home Screen updates at user defined interval

Reading - Home Screen updates each time a reading is taken

Update After – User defined Home Screen update frequency

Use ◀ ▶ to set desired frequency

Auto-Scroll – When device is idle, screen view alternates between home and statistics screens

Use ◀ ▶ to Enable/ Disable auto-scroll

Display – Options for display visibility

Use ◀ ▶ to select
Auto - display turns off after two minutes of inactivity
On - display always on

Backlight – Options for use of display backlight

Use ◀ ▶ to select
Auto - backlight turns off after five seconds of inactivity
On - backlight always on
Off - backlight always off

LED – Options for use of status LEDs

Use ◀ ▶ to select
Enabled - status LEDs flash to indicate reading status
Disabled - LEDs off

Contrast – Set screen contrast value

Use ◀ ▶ to set desired contrast value

Battery Type – User defined based on the type of battery currently installed in the device

Use ◀ ▶ to select Lithium or Alkaline battery

Battery Life – Percentage of battery power remaining

Battery Voltage – Voltage supplied to the device by the battery

External Power – Presence of external power supply

External Voltage – Voltage supplied to the device by external power supply

Software Features

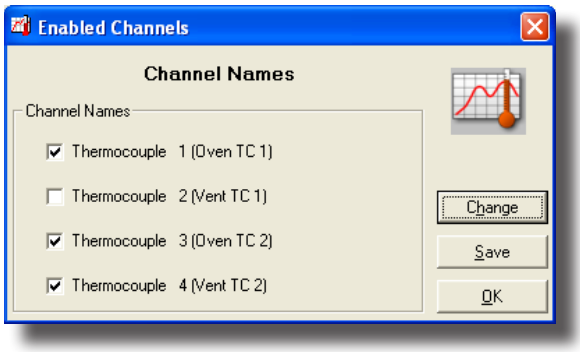
This section details several features of the data logger software that are particularly useful with the OctTemp2000 device. For further information regarding the software, please consult the Data logger Software Manual available at www.madgetech.com.

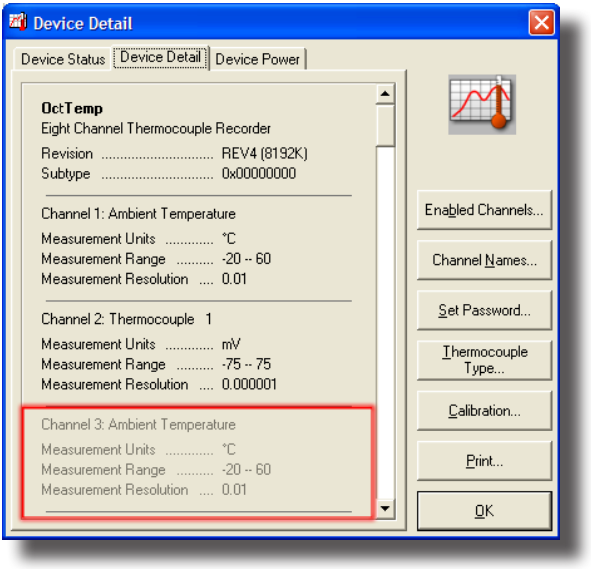
Enable and Disable Channels

The user may choose to enable or disable channels using the software. Data from disabled channels will be visible on the LCD, but readings will not be recorded to the device's memory. Disabling a thermocouple channel also disables it's corresponding ambient temperature channel.

To enable/disable channels in the software:

1. In the **Device** drop down menu select **Identify Device and Read Status** to view the **Device Status** screen
2. Select the **Device Detail** tab
3. Click **Enabled Channels** to show the **Enabled Channels Screen**
4. To edit the enabled channels click **Change**
5. Check the boxes next to channels to be enabled
6. Click **Save** to save changes
7. Click **OK** to return to the **Device Detail** screen
8. Click **OK** to return to the software's main screen





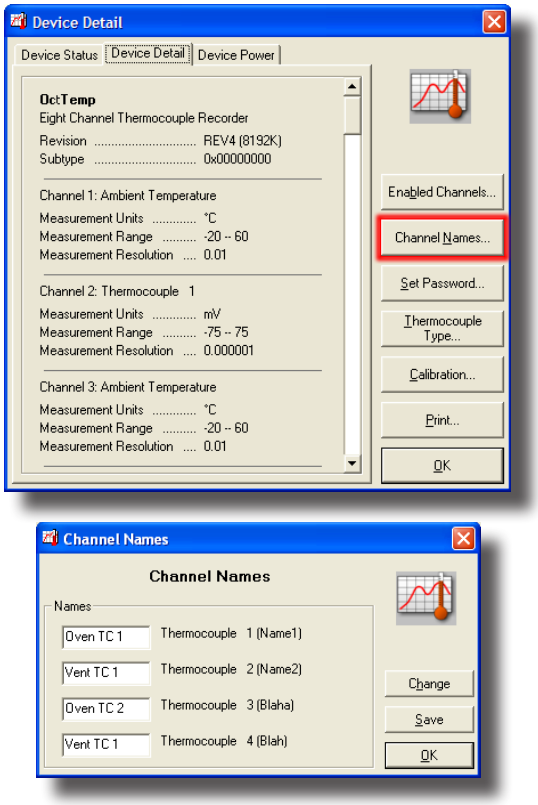
Notice that disabled thermocouple and ambient channels appear grayed-out on the Device Detail screen.

Name Channels

Each channel can be given an unique name for easy identification. Channel names are visible on the LCD and are used throughout the software and data files.

To name channels in the software:

1. In the **Device** drop down menu select **Identify Device and Read Status** to view the **Device Status** screen
2. Select the **Device Detail** tab
3. Click **Channel Names** to show the **Channel Names Screen**
4. To edit the channel names click **Change**
5. Type desired channel name in text box next to each channel
6. Click **Save** to save changes
7. Click **OK** to return to the **Device Detail** screen
8. Click **OK** to return to the software's main screen

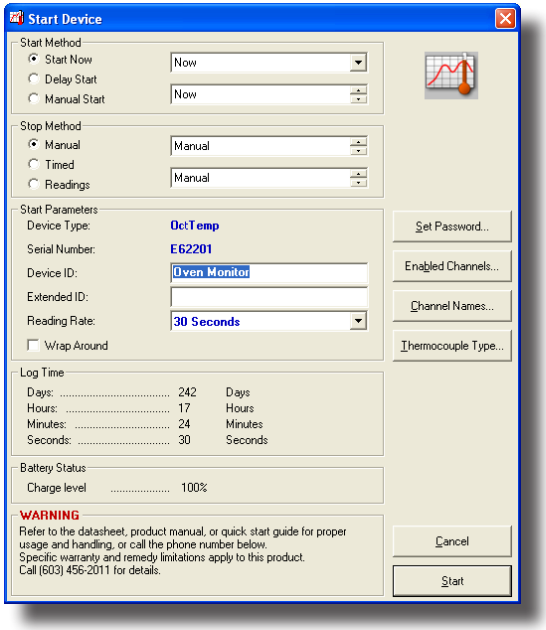


Change Device ID

Each OctTemp2000 can be given a device ID allowing for easy identification among multiple devices. Device IDs are displayed on the Home Screen of the LCD and are used throughout the software and data files.

To change Device ID in the software:

1. In the **Device** drop down menu select **Start Device** to view the **Start Device** screen
2. In the **Device ID** entry field type the desired Device ID name
3. Select other desired start functions
4. Click **Start** to start the device and save Device ID information



Device type and user defined Device ID are displayed on the Home Screen.

Battery Information

BATTERY WARNING

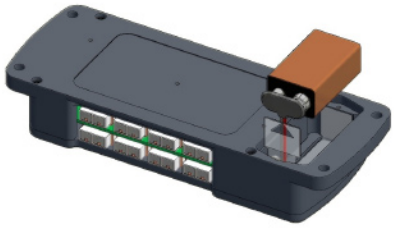
This data logger contains a lithium battery. Do not cut the battery open, incinerate, or recharge. Do not heat lithium batteries above the specified operating temperature.* Dispose of the battery in accordance with local regulations.

***See the individual specification sheets at www.madgetech.com.**

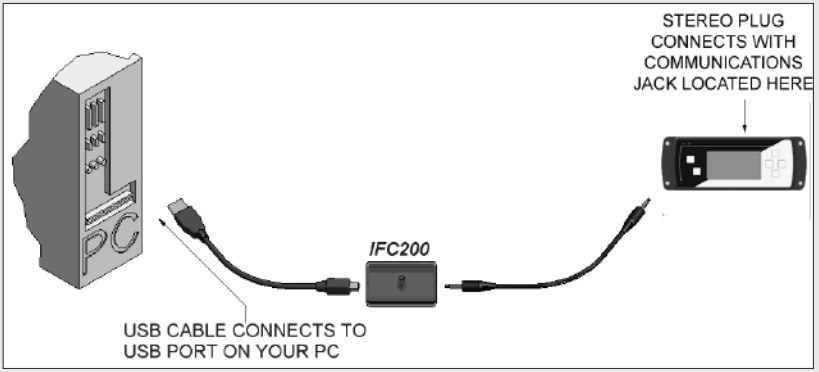
Battery Replacement

This product does not have any user-serviceable parts except the battery which should be replaced periodically. The battery life is affected by battery type, ambient temperature, sample rate, sensor selection, off-loads and LCD usage. The device has a battery status indicator on the LCD. If the battery indication is low, or if the device seems to be inoperable, it is recommended that the battery be replaced.

To replace the battery, locate the battery compartment cover on the back of the unit. Remove the two (2) 3/32 hex screws and expose the battery compartment. Use the pull tab to remove battery from compartment. Remove the old 9V battery from the battery clips and replace with a new 9V battery. We recommend using 9V lithium battery. An alkaline battery is acceptable, but will yield a shorter battery life.



Computer Interface



Fully insert the male connector of the IFC200 interface cable into the female receptacle of the data logger. Fully insert the female USB connector into the USB. *(Please see the Data Logger Software manual for further information.)*

**WARNING: Install driver before connecting a device using a USB for the first time. See the Software manual for further information.*

Warranty

Products manufactured by MadgeTech, Inc., are warranted against defective material and workmanship for a period of one year, starting from the date of shipment. In the event that a MadgeTech product is found to be defective, MadgeTech will repair or replace the product at its sole discretion. Such repair or replacement shall be the sole remedy of this warranty.

This warranty extends only to the original purchasing customer and does not apply to any unit, which in our sole judgment, has been subjected to:

a) Operating or environmental conditions in excess of our written specifications or recommendations;

b) Damage, misuse or neglect;

c) Improper installation, repair or alteration.

This warranty excludes batteries.

Except as to title, this is our only warranty for the products. MadgeTech, Inc. expressly disclaims all other warranties, guarantees or remedies—whether expressed or implied or statutory—including any implied warranty of merchantability or fitness for a particular purpose. We also disclaim any implied warranty arising out of trade usage or out of a course dealing or course of performance. We do not guarantee the integrity of data or warranty that the products will operate uninterrupted or error-free.

MadgeTech data loggers and their associated software have been thoroughly tested and the documentation reviewed. However, MadgeTech does not warrant the performance of its products, or that the products or their associated software will operate as described in this manual.

Terms and Conditions

All products furnished by MadgeTech, Inc. ("Seller") shall be in accordance with the following terms and conditions unless otherwise stated in writing:

These Terms and Conditions ("Terms and Conditions") govern (a) all sales quotations and sales of components, equipment, parts, and other products ("Product") from, and (b) all service proposals and provisions of services by Seller to the buyer of the Products ("Buyer"). These Terms and Conditions shall take precedence over any terms and conditions which appear on Buyer's order or other form or any other writing or electronic transmission from Buyer. Any terms or conditions on any of Buyer's forms, recordings, electronic transmissions, or orders that are different from or in addition to these Terms and Conditions are specifically rejected. Any modification to these Terms and Conditions must be agreed to and executed in writing by Seller. Seller's failure to object to provisions contained in any communication from Buyer shall not be construed as a waiver of these Terms and Conditions or as an acceptance of any such provision. Trade custom, trade usage and past performance are superseded by these terms and conditions and shall not be used to interpret these terms and conditions. In the event that Product includes software, the software is licensed to Buyer in object code form only in accordance with Seller's standard Software License Terms that are included below.

20. Limited Warranty.

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Seller warrants to Buyer that:

(i) Seller manufactured Software (as defined in Section 23 below) shall execute the programming instructions provided by Seller, and

(ii) Seller manufactured Product and consumables and Seller provided services shall be free from material defects in material and workmanship under normal uses and care, in each case until the expiration of the applicable warranty period specified below

Seller manufactured Product is warranted for the shorter of twelve (12) months from the date of initial installation or fifteen (15) months from the date of shipment by Seller. Seller manufactured consumables and Software, and Seller provided services are warranted for a period of ninety (90) days from the date of shipment or completion, as applicable. If Buyer discovers any warranty defect and notifies Seller thereof in writing during the applicable warranty period, Seller shall, at its option, promptly correct any defects that are found by Seller, or repair or replace F.O.B. point of manufacture that portion of the Seller manufactured Products, consumables or Software found by Seller to be defective, or refund the price of the defective portion of the Seller manufactured Products, consumables or Software, or of the defective portion of the Seller provided services. All replacements or repairs necessitated by inadequate maintenance, normal wear and usage, unsuitable power sources, unsuitable environmental conditions, accident, misuse, improper installation, modification, repair, storage or handling, or any other cause not the fault of Seller are not covered by this limited warranty, and shall be at Buyer's expense. Seller shall not be obligated to pay any costs or charges incurred by Buyer or any other party except as may be agreed upon in writing in advance by an authorized representative of Seller. All costs of dismantling, re-installation and freight, and the time and expenses of Seller's personnel for site travel and diagnosis under this limited warranty shall be borne by Buyer unless accepted in writing by Seller. Seller manufactured Products, consumables and Software, and Seller provided services, repaired, replaced or corrected during the applicable warranty period shall be in warranty for the greater of the remainder of the applicable original warranty period or ninety (90) days.

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